

### REMARKS/ARGUMENTS

Claims 23-25 have been newly added; support can be found in the examples. No new matter has been added.

#### Related art rejections

1. The rejection of claims 1-4, 6, 9, 10, 19 and 20-22 under 35 USC § 103(a) in view of *Nagano*, in view of JP 09-048989 ("*Seiki*") and further in view of JP 2004-051720 ("*Kamimura*") is respectfully traversed.

The strongest rationale for combining references is "that some advantage or expected beneficial result would have been produced by their combination." See MPEP § 2144(II.). A particularly important aspect of the presently claimed inventions is "to provide a lubricating oil composition for sizing which is excellent in machinability and degreasing efficiency..." See [0005] of the filed specification. Degreasing efficiency in an oil is obtained by including "an extreme-pressure agent and a metal deactivating agent compounded [in a base oil] in specific amounts." See [0006] of the present specification. There is no disclosure or teaching of degreasing efficiency in oils in the cited references, and therefore one of ordinary skill in the art would not be able "to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR Intern. Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). Accordingly, there is no reason to add the *Seiki* extreme pressure agents and the *Kamimura* metal deactivators in the amounts as claimed to the oil compositions of *Nagano*.

Second, *Kamimura* discloses that the metal deactivator is present in an amount of at most 0.4 mass %.<sup>1</sup> The *Kamimura* examples include the presence of metal deactivators in an amount of 0.01% by weight (see Table 2). There are no examples which would suggest

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<sup>1</sup> See paragraph [0034] of *Kamimura*

including the metal deactivator in an amount of more than 0.01% by weight. Accordingly, there is no range that overlaps with or a species that falls within the range as claimed in claim 23: "said (C) at least one metal deactivator is present in an amount of 0.5 to 5 % by mass." Accordingly, no *prima facie* case of obviousness exists against at least this claim.

As shown in Table 1 of the present application (reproduced in part from the PGPub of this application and modified for clarity):

TABLE 1

			Ex. 1	Ex. 2	Ex. 3	Ex. 4	Ex. 5	Ex. 6	Ex. 7	Ex. 8
Amount (% by mass)	Base oil	A1	91	95.5	97.8	98.9				
		A2					96.9			96.9
		A3						95		
		A4							99.45	
		A5								
	Extreme pressure agent	B1	8	4	2	1	3			3
		B2						2	0.5	
		B3								
		B4								
	Metal deactivator	C1	1	0.5	0.2	0.1	0.1	0.1	0.05	
C2										
C3									0.1	
Lubricity	JASO pendulum Test	Coefficient of friction	0.093	0.097	0.106	0.111	0.103	0.105	0.112	0.117
Degreasing efficiency	Degreasing Test	Residual amount of Oil (g)	0.0057	0.0023	0.0012	0.0006	0.0017	0.0125	0.0516	0.0014
Compati- bility	Compatibility with impreg- nation oil	Precipitates	none	none	none	none	none	none	none	none
	Compatibility with sintered metal	Color change Appearance of oil	none good	none good	none good	none good	none good	none good	none good	none good

the Example 2 composition included the metal deactivator in an amount of 0.5 % by mass and the residual amount of oil remaining in the composition after use was 0.0023g (see claim 19). The degreasing efficiency is defined as follows:

A sintered metal impregnated with the oil was subjected to extraction with n-hexane. The residual amount of the oil in the sintered metal after the extraction was measured.<sup>2</sup>

<sup>2</sup> See the specification at page 13, part (b) of paragraph [0035].

Since the cited references do not discuss degreasing efficiency or extracting oil from sintered metal, there is no disclosure or suggestion of this result.

Last, there is no disclosure of the specific combinations of components in claims 24 and 25 in the cited references, and there is no disclosure of the results obtained from such compositions as shown in Table 1 of the present application. As noted above, none of the cited references disclose oil compositions that show excellent degreasing efficiency. In Table 1, the degreasing efficiency for the exemplary oil compositions are given, and no more than 0.0516 g of residual oil remains in such compositions. Such results are not disclosed or suggested in the cited references. Accordingly, the compositions as claimed in at least claims 24 and 25 would not have been obvious to one of ordinary skill in the art considering such references.

In view of the foregoing, the claims are fully distinguished from the cited references. Withdrawal of the rejection is respectfully requested.

2. The rejection of claims 7 and 8 under 35 USC § 103(a) in view of *Nagano, Seiki, Kamimura* and further in view of JP 09-222125 ("*Masao*") is respectfully traversed for the reasons given above. *Masao* discloses methods of manufacturing sintered parts where the parts are washed in a solvent such as methylene chloride. There is no disclosure or suggestion in *Masao* of degreasing efficiency or specific combinations of oils with extreme pressure agents and metal deactivators. Further there is no disclosure or suggestion of the results obtained for the presently claimed compositions that were discussed above. There is also no disclosure, individually or combined with the other references, of the compositions as claimed in claims 24 and 25. Thus, the present claims are fully distinguished from the cited references.

Withdrawal of the rejection is respectfully requested.

3. The rejection of claims 11-17 under 35 USC § 103(a) in view of *Nagano, Seiki*, *Kamimura* and US 2002/0114980 ("*Gunsel*") is respectfully traversed for the same reasons given above—*Gunsel* does not disclose degreasing efficiency or extracting oil from sintered metal. Further, there is no particularly no disclosure, individually or combined, of the compositions as claimed in claims 24 and 25. Accordingly, *Gunsel* does not remedy the problems from the combination of *Nagano, Seiki*, and *Kamimura*, discussed above.

Withdrawal of the rejection is respectfully requested.

4. The rejection of claims 15-17 under 35 USC § 103(a) in view of *Nagano, Seiki*, *Kamimura* and US 5,275,630 ("*Dorer*") and US 5,484,542 ("*Cahoon*") is respectfully traversed for the same reasons given above.

*Dorer* relates to fuels where various sulfur containing compounds are added thereto. There is no disclosure of degreasing efficiency, as there is no disclosure of adding metal deactivators and extreme pressure agents in the amounts as claimed. Further, there is no disclosure individually or combined with the other references of the compositions as claimed in claims 24 and 25.

*Cahoon* relates to extreme pressure agents which can be present in various oils. However, there is also no disclosure or suggestion that the specific compositions as claimed, present in the amounts as claimed, would result in oils having excellent degreasing efficiency. Accordingly, there is no disclosure or suggestion of the results shown for the claimed compositions. There is also no disclosure individually or combined with the other references of the compositions as claimed in claims 24 and 25.

Withdrawal of the rejection is respectfully requested.

5. The rejection of claim 18 under 35 USC § 103(a) in view of *Nagano, Seiki, Kamimura* and US 6,586,376 ("*Nakanishi*") is respectfully traversed for the same reasons given above.

*Nakanishi* disclose polyphenyl thioethers as additives to fuels, which function as antioxidants. There is no disclosure that such components would improve degreasing efficiency. Accordingly, this cited reference (individually or combined with the other references) does not suggest the results discussed above, or the compositions as claimed in claims 24 and 25.

Withdrawal of the rejection is respectfully requested.

#### Conclusion

Applicants respectfully submit that the above-identified application is in condition for allowance. Notification thereof is requested.

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